

CLAIMS

- 1 A data carrier (10) comprising:
- an information layer (1) comprising a specific area (4) able to deliver a first optical
 - 5 signal (8) and a second optical signal when illuminated by a light source,
 - a patterned additional layer (2) able to deliver an electrical signal (9) when
 - illuminated by the second optical signal, said electrical signal corresponding to a
 - predetermined pattern,
 - the combination of the first optical signal (8) and of the electrical signal (9) forming a
 - 10 cryptographic key that is required to decrypt encrypted data contained in the information
 - layer (1).
- 2 A data carrier as claimed in claim 1, wherein the predetermined pattern is
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- 15 obtained from a segmentation of the additional layer (2) in activated (2a) and deactivated (2b)
- areas.
- 3 A data carrier as claimed in claim 1, wherein the additional layer (2) comprises
- electrodes (5,6), one of which being segmented (6a,6b) in order to obtain the predetermined
- 20 pattern.
- 4 A data carrier as claimed in claim 1, wherein the specific area (4) is contained
- in the initialization area of the information layer (1).
- 5 A data carrier as claimed in claim 1, wherein the additional layer (2) is a
- 25 thermoelectric layer.
- 6 A data carrier as claimed in claim 1, wherein the additional layer (2) is a
- photoelectric layer.
- 30 7 A data carrier as claimed in claim 6, wherein the photoelectric layer (2) is
- made of amorphous silicon.
- 8 A data carrier as claimed in claim 6, wherein the photoelectric layer (2) is
- made of photoelectric tungsten disulfide.

9 A device for reading a data carrier as claimed in claim 1, said device comprising:

- 5 - means for reading the first optical signal (8) delivered by the specific area (4) of the information layer (1),
- means for reading the electrical signal (9) delivered by the additional layer (2),
- means for computing a cryptographic key from a combination of the first optical signal (8) and the electrical signal (9), and
- 10 - means for decrypting encrypted data contained in the data carrier from the cryptographic key.

10 A method of reading a data carrier as claimed in claim 1, said method comprising the steps of:

- 15 - ~~reading the first optical signal (8) delivered by the specific area (4) of the information~~ layer (1),
- reading the electrical signal (9) delivered by the additional layer (2),
- computing a cryptographic key from a combination of the first optical signal (8) and the electrical signal (9), and
- 20 - decrypting encrypted data contained in the data carrier from the cryptographic key.

11 A device for recording information on a data carrier as claimed in claim 1, said device comprising:

- means for reading the first optical signal (8) delivered by the specific area (4) of the information layer (1),
- 25 - means for reading the electrical signal (9) delivered by the additional layer (2),
- means for computing a cryptographic key from a combination of the first optical signal (8) and the electrical signal (9),
- means for encrypting information based on the cryptographic key, and
- 30 - means for storing the encrypted information on the data carrier.

12 A method of recording information on a data carrier as claimed in claim 1, said method comprising the steps of:

- reading the first optical signal (8) delivered by the specific area (4) of the information layer (1),

- reading the electrical signal (9) delivered by the additional layer (2),
 - computing a cryptographic key from a combination of the first optical signal (8) and the electrical signal (9),
 - encrypting information based on the cryptographic key, and
 - 5 - storing the encrypted information on the data carrier.
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